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M13321

M13 + 2 7/13/92

SPEC. CONTINUED....

L. PIPE AND VALVE IDENTIFICATION

1. PROVIDE AND AFFIX A SET OF APPROVED ADHESIVE BANDS IDENTIFYING THE SYSTEM AND DIRECTION OF FLOW.

2. EACH SET SHALL CONSIST OF ONE BAND ON WHICH THE NAME OF THE SERVICE IS PRINTED IN LETTERS NOT LESS THAN 1 INCH HIGH.

3. BANDS SHALL BE IN COLORS AS INDICATED BELOW AND SHALL CONFORM TO ANSI STANDARD A-13.1.

SYSTEM	BACKGROUND	LETTERS & ARROW
AUXILIARY COOLED WATER	GREEN	BLACK

ADHESIVE BANDS SHALL BE W.H. BRADY COMPANY, SETON CORP. OR AN APPROVED EQUAL.

N. THREADED JOINTS

STEEL PIPE THREADED JOINTS SHALL BE MADE TIGHT USING ONLY AN APPROVED PIPE JOINT COMPOUND OR TAPE, PLACED ON THE MALE THREAD ONLY.

N. INSULATION FOR DOMESTIC WATER AND DRAIN PIPE

1. INSULATION: 1/2" THICK ONE PIECE FIBERGLASS, FLAME SPREAD RATING NOT GREATER THAN 25" SMOKE RATING "50". (INSULATE VALVES AND FITTINGS).

O. CUTTING AND PATCHING

1. PIPING PASSING THROUGH WALLS SHALL HAVE A TRIM OPENING CUT NO GREATER THAN NECESSARY FOR THE INSTALLATION OF A SLEEVE SECURED THEREIN. SLEEVE SHALL BE 1/2" IN DIAMETER LARGER THAN THE OUTSIDE DIAMETER OF THE PIPE OR REQUIRED INSULATION PASSING THROUGH AND OF SUFFICIENT LENGTH TO BE FLUSH WITH THE FINISHED WALL SURFACES.

2. PIPING PASSING THROUGH CONCRETE FLOORS SHALL HAVE THE OPENING CORE DRILLED 1/2" IN DIAMETER LARGER THAN THE OUTSIDE DIAMETER OF THE PIPE PASSING THROUGH.

3. ANNULAR SPACES BETWEEN PIPING AND SLEEVES OR CORE DRILLED FLOOR OPENINGS SHALL BE PACKED WITH THERMAFIBER AND SEALED TO RETAIN THE FIRE INTEGRITY OF THE WALLS AND FLOORS WITH A NON-HARDENING COMPOUND SIMILAR AND EQUAL TO *UNISEAL* OR DUXSEAL AS MANUFACTURED BY JOHNS-MANVILLE CO.

HALON PURGE FAN

A. GENERAL

1. THE CONTRACTOR SHALL FURNISH AND INSTALL A FAN SIMILAR TO PEERLESS ELECTRIC OR APPROVED EQUAL SIZE #1220, TO MOVE 1200 CFM AT 1½" E.S.P. WITH A 3/4 HP MOTOR, 1707 RPM VOLTAGE 460-3-60 (1)

B. FAN SUPPORTING REQUIREMENTS

1. ALL SUPPORTING STEEL SHALL CONFORM TO ASTM DESIGNATION A-36.

2. PATCH EXISTING BEAM FIRE PROOFING WHERE REMOVED.

3. ALL NUTS TO HAVE LOCK WASHERS.

4. CONTRACTOR TO VERIFY AND FIELD MEASURE EXISTING CONDITIONS.

5. PAINT ALL STEEL.

C. VIBRATION ELIMINATORS

1. VIBRATION HANGERS SHALL BE HDA-BLACK (4 REQ'D.) AS MANUFACTURED BY MASON INDUSTRIES OR AN APPROVED EQUAL.

COMPUTER ROOM AIR CONDITIONING UNIT (M.E.A. No. 89-78) (2)

A. GENERAL

1. FURNISH AND INSTALL PACKAGED COMPUTER ROOM AIR CONDITIONING UNIT. UNIT SHALL BE DOWN-FLOW AIR DISCHARGE FOR RAISED FLOOR INSTALLATION.

2. UNIT SHALL BE SIMILAR TO MODEL FD315W AS MANUFACTURED BY THE LIEBERT CORP. CAPACITY SHALL BE 268,000 BTUH TOTAL, MAINTAINING THE ROOM TEMPERATURE AT 72°FDB/58.6°FWB. E.E.R. 7.9 (2)

3. THE ELECTRICAL CHARACTERISTICS OF THE UNIT SHALL BE 460V-3-60.

B. CABINET

1. UNITS SHALL BE #4 U.S. GAUGE FURNITURE STEEL CONSTRUCTION WITH A BASE OF 1/8" STEEL, AND SHALL BE FINISHED IN A COLOR AND TEXTURE AS SELECTED BY THE ARCHITECT. EACH UNIT SHALL HAVE FULL FRONT ACCESS AND BE FULLY SERVICEABLE FROM THREE SIDES ALLOWING IT TO BE POSITIONED WITHIN ½" OF WALL. ACCESS PANELS SHALL BE TIGHTLY SET ON NEOPRENE GASKETS WITH RECESSED SELF-TIGHTENING LATCHES TO PREVENT AIR LEAKAGE. PANELS SHALL NOT HAVE RAW EDGES AND SHALL BE LINED WITH THERMAL AND ACOUSTIC INSULATION.

2. UNITS SHALL BE COMPLETELY SELF-CONTAINED WITH AN INTEGRAL, CONCEALED, SERVICEABLE CONTROL PANEL, WHICH WILL SENSE ROOM RETURN AIR TEMPERATURE AND HUMIDITY, BRING ON COOLING OR HEATING IN TWO STAGES, AND/OR HUMIDIFICATION OR DEHUMIDIFICATION. ALL PIPING AND CONTROL VALVES SHALL BE CONCEALED WITHIN THE CABINET. UNITS SHALL BE SO ARRANGED AS TO PROVIDE FOR FULL FRONT SERVICE AND ACCESS OF MECHANICAL AND ELECTRICAL CONTROLS WITHOUT INTERRUPTION OF SYSTEM OPERATIONS.

3. ALL REFRIGERATION CYCLE COMPONENTS, INCLUDING COMPRESSORS, RECEIVERS, REFRIGERANT FLOW CONTROL VALVES, STRAINER/DRIERS AND SIGHT GLASSES SHALL BE OUT OF THE CONDITIONED AIRSTREAM AND READILY ACCESSIBLE FOR SERVICE. AIR SHALL BE DISCHARGED OUT OF THE CABINET THROUGH AN INTERNAL DUCT WHICH PREVENTS CONDITIONED AIR FROM PASSING OVER COMPRESSORS AND RECEIVERS. UNIT SHALL BE SECTIONALIZED TO FACILITATE, IF REQUIRED, SHIPPING SEPARATE FAN AND REFRIGERATION SECTIONS TO JOBSITE WITHOUT THE NEED FOR FIELD PIPING OR WIRING.

4. FRONT CONTROL PANEL SHALL CONTAIN SYSTEM ON SWITCH, ALARM SILENCING SWITCH, AND 10 SYSTEM PILOT LIGHTS TO INDICATE SYSTEM ON, POWER ON, EACH STAGE OF COOLING OR HEATING, HUMIDIFICATION OR DEHUMIDIFICATION, HIGH RETURN AIR TEMPERATURE, NEED FOR FILTER CHANGE. PROVIDE FACTORY MOUNTED DISCONNECT SWITCH. PROVIDE TERMINALS FOR REMOTE ALARM.

C. A-FRAME D.X. COIL

1. THE EVAPORATOR COIL SHALL BE OF A-FRAME DESIGN WITH A MINIMUM OF 22.2 SQ. FT. FACE AREA, 4 ROWS DEEP. IT SHALL BE CONSTRUCTED OF COPPER TUBES AND ALUMINUM FINS AND HAVE A MAXIMUM FACE VELOCITY OF 540 FT. PER MINUTE AT 12,000 CFM TO PROVIDE THE MAXIMUM SENSIBLE COOLING FOR THE COMPUTER ROOM. THE REFRIGERATION CIRCUIT SHALL BE DESIGNED TO DISTRIBUTE REFRIGERANT INTO THE ENTIRE COIL FACE AREA FROM EACH COMPRESSOR. THE ENTIRE COIL ASSEMBLY SHALL BE MOUNTED IN A STAINLESS STEEL CONDENSATE DRAIN PAN.

D. SEMI-HERMETIC COMPRESSORS

1. THE REFRIGERATION SYSTEM SHALL BE DIRECT EXPANSION WITH TWO SEPARATE REFRIGERATION CIRCUITS. EACH CIRCUIT SHALL CONTAIN A HEAVY DUTY CAST IRON, SEMI-HERMETIC SERVICEABLE COMPRESSOR WITH SUCTION GAS COOLED MOTOR CONSTRUCTION. THE COMPRESSOR SHALL BE MOUNTED ON VIBRATION ISOLATORS AND HAVE BUILT IN OVERLOADS, OIL SIGHT GLASS, MANUAL RESET HIGH PRESSURE SWITCH, PUMP DOWN LON PRESSURE SWITCH, SUCTION LINE STRAINER, REVERSIBLE OIL PUMPS FOR FORCED FEED LUBRICATION AND PUMP DOWN CONTROL. THE MAXIMUM OPERATING SPEED SHALL BE 1750 RPM. THE REFRIGERATION CIRCUIT SHALL INCLUDE HOT GAS MUFFLERS, LIQUID LINE FILTER DRYERS, REFRIGERANT SIGHT GLASS AND MOISTURE INDICATOR ADJUSTABLE EXTERNALLY EQUALIZED EXPANSION VALVES, AND LIQUID LINE SOLENOID VALVES FACTORY CONNECTED WITH TYPE "L" REFRIGERATION COPPER TUBING. THE COMPRESSORS SHALL BE LOCATED IN A SEPARATE COMPARTMENT SO CONDITIONED AIR DOES NOT FLOW OVER THEM AND THEY MAY BE SERVICED DURING OPERATION OF THE EQUIPMENT.

E. FAN SECTION

1. THE FAN SHALL BE THE CENTRIFUGAL TYPE, DOUBLE WIDTH, DOUBLE INLET AND SHALL BE STATICALLY AND DYNAMICALLY BALANCED AT THE FACTORY AS A COMPLETED ASSEMBLY TO A MAXIMUM VIBRATION LEVEL OF TWO MILS IN ANY PLANE. THE WHEELS SHALL BE SUPPORTED ON A HEAVY DUTY STEEL SHAFT HAVING SELF-ALIGNING BALL BEARINGS WITH A MINIMUM LIFE SPAN OF 100,000 HOURS. THEY SHALL BE DRIVEN BY 1750 RPM FAN MOTOR MOUNTED ON AN ADJUSTABLE SLIDE BASE. THE DRIVE PACKAGE SHALL BE TWO-BELT, VARIABLE SPEED, SIZED FOR 200% OF THE FAN MOTOR HORSEPOWER. THE FAN MOTOR SHALL BE 7.5 HP. THE FANS SHALL BE LOCATED TO DRAW AIR DISTRIBUTION AND MAXIMUM COIL PERFORMANCE.

F. FILTER CHAMBERS

1. THE FILTER CHAMBERS SHALL BE AN INTEGRAL PART OF THE SYSTEM, DESIGNED WITHIN THE FRAME AND CABINET. THE FILTERS SHALL BE RATED NOT LESS THAN 65 PER CENT EFFICIENCY BY THE N.B.S. ATMOSPHERIC DUST SPOT TEST.

THE FILTERS SHALL BE SERVICEABLE FROM EITHER END OF THE UNIT WITHOUT THE USE OF LADDERS OR SPECIAL RIGGING. MEDIA SHALL BE DRY REPLACEABLE CLASS I (2)

G. ELECTRONIC CONTROL SYSTEM

1. THE ELECTRONIC CONTROL SYSTEM SHALL BE TOTALLY SOLID STATE. THE SYSTEM SHALL BE PROVIDED WITH START BUTTON, STOP BUTTON, SILENCER BUTTON, TEMPORARY LOSS OF POWER INDICATOR, MANUAL RESET *CIRCUIT BREAKERS, PLUG*-IN SOLID STATE TEMPERATURE CONTROL WITH SENSITIVITY ADJUSTMENT, PLUG-IN SOLID STATE HUMIDITY CONTROL, AND BACKLIGHTED MONITOR PANEL.

THE BACKLIGHTED MONITOR PANEL SHALL HAVE NO VISIBLE INDICATOR LIGHTS UNTIL THE ACTUAL OPERATING FUNCTION IS REQUIRED BY THE SYSTEM. WHEN REQUIRED BY SYSTEM DEMAND, THE FOLLOWING VISUAL INDICATORS SHALL APPEAR:

COOLING STAGE 1 & 2	DEHUMIDIFICATION
HEATING STAGE 1, 2 & 3	CHANGE FILTERS
HUMIDIFICATION	

THE SOLID STATE TEMPERATURE AND HUMIDITY CONTROL MODULES SHALL HAVE AN ADJUSTABLE SET POINT FOR ROOM CONDITIONS. THE TEMPERATURE AND HUMIDITY CONTROLS SHALL HAVE A "PUSH-TO-TEST" CALIBRATION CHECK BUTTON AND BUILT-IN VISUAL INDICATORS TO INDICATE THE MODE OF OPERATION OF THE CONTROL. ALL CONTROLS AND CONTROL SENSORS SHALL BE EASILY ACCESSIBLE, PLUG-IN MODULES.

H. HOT GAS REHEAT

1. THE SYSTEM SHALL BE SUPPLIED WITH A HOT GAS HEAT RECLAIM COIL AND ONE STAGE OF ELECTRIC REHEAT. THE HOT GAS COIL SHALL USE HOT REFRIGERANT FROM THE DISCHARGE OF COMPRESSOR #2 FOR REHEATING PURPOSES. THE CAPACITY OF THE HOT GAS COIL SHALL BE 69,700 BTU/HR. THE COMPLETE HOT GAS REHEAT SYSTEM SHALL INCLUDE COPPER TUBE, ALUMINUM FIN COIL, THREE-WAY SOLENOID VALVE, AND REFRIGERANT CHECK VALVE. THE ELECTRIC REHEAT STAGE SHALL HAVE A CAPACITY OF 34,130 BTU/HR 10 KW, AND SHALL BE THE SECOND STAGE OF REHEAT DURING DEHUMIDIFICATION, AND THE ONLY STAGE OF HEAT FOR THE HEATING MODE OF OPERATION.

I. HUMIDIFIER

1. THE HUMIDIFIER SHALL BE OF THE INFRA-RED TYPE CONSISTING OF HIGH INTENSITY QUARTZ LAMPS MOUNTED ABOVE AND OUT OF THE WATER SUPPLY. THE EVAPORATOR PAN SHALL BE STAINLESS STEEL AND ARRANGED TO BE SERVICEABLE FOR CLEANING WITHOUT DISCONNECTING WATER SUPPLY LINES, DRAIN LINES OR ELECTRICAL CONNECTIONS. THE COMPLETE HUMIDIFIER SECTION SHALL INCLUDE LIQUID LEVEL CONTROL, EMERGENCY OVERFLOW AND SHALL BE PREPIPED READY FOR FINAL CONNECTION.

2. THE PRIMARY WATER SUPPLY FOR THE HUMIDIFIERS SHALL BE DISTILLED CONDENSATE WATER FROM THE COOLING COIL TO ENSURE THAT MINIMUM DEPOSITS ACCUMULATE IN THE INFRA-RED HUMIDIFIER PAN, MINIMUM MAKEUP WATER IS CONSUMED, AND TO MAXIMIZE THE TIME BETWEEN CLEANING CYCLES. THE INFRA-RED HUMIDIFICATION SYSTEM SHALL USE BYPASS AIR TO PREVENT OVER-HUMIDIFICATION OF THE COMPUTER ROOM. THE HUMIDIFIER SHALL HAVE A CAPACITY OF 22.1 LBS./HR.

3. THE INFRA-RED HUMIDIFIER SHALL BE PROVIDED WITH AN AUTO-FLUSH CONTROL SYSTEM. THE AUTO-FLUSH CONTROL SYSTEM SHALL BE FIELD ADJUSTABLE TO CHANGE THE CYCLE TIME IN ACCORDANCE WITH LOCAL WATER CONDITIONS. THE AUTO-FLUSH SYSTEM SHALL ENSURE THAT THE HUMIDIFIER PAN REMAINS CLEAN, REDUCING MAINTENANCE AND ELIMINATING ANY UNWANTED PARTICLES.

J. CONDENSATE PUMP

1. THE ENVIRONMENTAL CONTROL SYSTEM SHALL BE PROVIDED WITH A MATCHING CONDENSATE PUMP. THE CONDENSATE PUMP SHALL HAVE THE CAPACITY OF 145 GPH AT 20 FT. HEAD. IT SHALL BE COMPLETE WITH INTEGRAL FLOAT SWITCH, PUMP AND MOTOR ASSEMBLY, AND RESERVOIR.

K. WATER COOLED CONDENSERS

1. THE WATER COOLED CONDENSERS SHALL BE HEAVY DUTY, SHELL AND TUBE, COUNTER FLOW TYPE WITH REMOVABLE HEADS. THE CONSTRUCTION SHALL BE COPPER TUBE WITH CAST IRON HEADS, MECHANICALLY CLEANABLE FROM EITHER SIDE. THE CONDENSER SHALL HAVE STORAGE CAPACITY FOR 40.2 LBS. OF REFRIGERANT DURING THE PUMP DOWN CYCLE. THE WATER COOLED CONDENSERS SHALL BE A.S.M.E. STAMPED FOR A MAXIMUM REFRIGERANT PRESSURE OF 400 PSI AT 300°F. THE CONDENSER SHALL HAVE A MINIMUM HEAT TRANSFER AREA OF 65.8 SQ. FT. THERE SHALL BE A WATER COOLED CONDENSER PROVIDED FOR EACH REGRIGERANT CIRCUIT. THE UNIT SHALL REQUIRE 50.3 GPM OF 85°F WATER AND HAVE A MAXIMUM PRESSURE DROP OF 11.4 PSI. THE WATER COOLED CONDENSER SHALL BE FACTORY PIPED COMPLETE WITH HEAD PRESSURE ACTUATED WATER REGULATING VALVE TO CONTROL THE HEAD PRESSURE FOR VARYING ENTERING WATER TEMPERATURES AND FLOW RATES.

L. FIRESTAT

1. THE ENVIRONMENTAL CONTROL SYSTEM SHALL BE PROVIDED WITH A FIRESTAT. THE FIRESTAT SHALL BE MOUNTED IN THE ELECTRICAL PANEL WITH THE SENSING ELEMENT IN THE RETURN AIR. WHEN THE FIRESTAT IS ACTIVATED IT SHALL IMMEDIATELY SHUT DOWN THE AIR CONDITIONING SYSTEM.

M. DISCONNECT SWITCH

1. THE UNIT SHALL INCLUDE A NON-AUTOMATIC MOLDED CASE CIRCUIT BREAKER MOUNTED IN THE HIGH VOLTAGE SECTION OF THE ELECTRICAL PANEL. THE COMPLETE SWITCH SHALL INCLUDE AN OPERATING MECHANISM WHICH IS OPERATED FROM THE OUTSIDE OF THE UNIT WHEN THE COVE FOR THE ELECTRICAL PANEL IS CLOSED. THE OPERATING MECHANISM SHALL PREVENT ACCESS TO THE HIGH VOLTAGE ELECTRICAL COMPONENTS UNTIL SWITCHED TO THE "OFF" POSITION.

N. FLOOR STAND

1. THE ENVIRONMENTAL CONTROL SYSTEM SHALL BE FURNISHED WITH AN ADJUSTABLE FLOOR STAND. THE FLOOR STAND SHALL ISOLATE THE AIR CONDITIONING UNIT FROM THE RAISED FLOOR AND SHALL BE CONSTRUCTED OF A HELIARC WELDED TUBULAR STEEL FRAME WITH CORNER GUSSETS. THE FLOOR STAND SHALL HAVE ADJUSTABLE LEGS CONNECTED TO VIBRATION SOLUTION PADS. THE FLOOR STAND SHALL BE USED TO INSTALL THE AIR CONDITIONING EQUIPMENT BEFORE THE RAISED FLOOR IS PUT INTO PLACE TO ALLOW ALL PIPING AND WIRING FROM THE UNIT TO BE COMPLETED BEFORE THE RAISED FLOOR IS INSTALLED.

O. SHOP TESTING

1. UNITS SHALL BE SHOP TESTED FOR THREE HOURS. A RECORD OF PRESSURES, TEMPERATURES, AIR CAPACITY, ELECTRICAL CURRENT DRAWS AND VOLTAGES OF ALL MOTORS SHALL ACCOMPANY PACKING LISTS.

AUTOMATIC CONTROLS

A. GENERAL

1. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED CONDUIT, WIRE, RELAYS, SWITCHES, DAMPER MOTORS, AND THERMOSTATS AS REQUIRED TO PROVIDE SEQUENCE OF OPERATIONS AS DESCRIBED BELOW. ALL DEVICES SHALL BE AS MANUFACTURED BY HONEYWELL CO.

2. THIS CONTRACTOR SHALL PROVIDE REQUIRED CONTROL DIAGRAMS, SEQUENCE OF OPERATION AND CUTS OF CONTROL DEVICES FOR ENGINEERS APPROVAL. (SEE "SHOP DRAWINGS").

3. WHERE MODULATING SERVICE IS CALLED FOR, FULLY PROPORTIONING MOTORS AND CONTROLS SHALL BE USED. ALL DAMPERS SHALL BE OF THE LOW LEAKAGE TYPE, GUARANTEED NOT TO LEAK IN EXCESS OF 20 CFM PER FT.² AT 4" STATIC PRESSURE. SHEET-METAL CONTRACTOR SHALL PROVIDE SAFING WHERE REQUIRED.

4. ALL FIRESTATS SHALL BE ADJUSTABLE MANUAL RESET TYPE MOUNTED IN *DISCHARGE DUCTS AND RETURN AIR DUCT. SET* AT 150°F AND 125°F TO SHUTDOWN AC UNIT.

5. FURNISH AND INSTALL ALL CONTROL WIRING. EXCEPT AS OTHERWISE NOTED.

B. SEQUENCE OF OPERATION

1. THE AC UNIT WILL BE MANUALLY ALTERNATED FOR OPERATION. WHEN A UNIT IS ACTIVATED, THE THREE WAY VALVE WILL BE POSITIONED TO PERMIT FLOW OF AUXILLIARY WATER TO ITS CONDENSER.

2. THE UNIT WILL BE UNDER THE CONTROL OF ITS OWN THERMOSTAT AND HUMIDSTAT.

3. THE UNIT WILL BE SHUT-OFF BY THE HALON CONTROL PANEL IN RESPONSE TO A SMOKE CONDITION.

4. A FLOW SWITCH, MOUNTED IN THE AUXILLIARY WATER PIPE WILL PREVENT OPERATION OF COMPRESSORS IF THERE IS NO WATER FLOW.

5. WHEN THE HALON SYSTEM IS ACTIVATED THE AC UNIT WILL STOP AND THE N.O. DAMPERS IN THE HUNG CEILING AND UNDERFLOOR WILL CLOSE.

6. THE PURGE FAN WILL BE ACTIVATED BY THE PURGE CONTROL PANEL. THE MOTORIZED DAMPER AT THE DISCHARGE OF THE FAN WILL OPEN AND THE DAMPERS OF THE OTHER PURGE FANS CONNECTED TO THE EXHAUST DUCT WILL REMAIN CLOSED. WHEN ANY OF THE OTHER PURGE FANS ARE ACTIVATED, ALL DISCHARGE DAMPERS REMAIN CLOSED EXCEPT THE ONE OF THE ACTIVATED FAN, WHICH SHALL OPEN. IF THE CONTRACTOR OPTS FOR THE ALTERNATE TO EXHAUST DIRECTLY TO THE 108TH FLOOR, THE INTERLOCKING OF DAMPERS WITH OTHER PURGE FANS WILL NOT BE NECESSARY.

7. A LIQUID DETECTOR MOUNTED IN THE DRAIN PAN UNDER THE AC UNITS WILL SOUND OFF AN ALARM (WITH SILENCING SWITCH). LOCATE ALARM WHERE DIRECTED BY W.T.C. AUTHORITIES.

(1)

CODES, LAWS AND ORDINANCES

ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH THE LATEST RULES OF THE NATIONAL BOARD OF FIRE UNDERWRITERS, OSHA, THE NATIONAL ELECTRICAL CODE, AND ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, LAWS AND ORDINANCES.

RECORD DRAWINGS

THE CONTRACTOR SHALL, DURING THE PROGRESS OF THE WORK, KEEP A CAREFUL RECORD OF ALL CHANGES WHERE THE ACTUAL INSTALLATION DIFFERS FROM THAT SHOWN ON THE CONTRACT DRAWINGS. AT THE CONCLUSION THEREOF, HE SHALL PREPARE A SET OF RECORD REPRODUCIBLE DRAWINGS INDICATING THE "AS-BUILT" MANNER OF INSTALLATION WHICH SHALL BE TURNED OVER TO THE OWNER.

PA/TAA NO. 232/
DATE APPROVED 9/21/92

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50 WEST 23 STREET, NEW YORK, NEW YORK 10010 / 627-9000
MECHANICAL A.E.

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REVISIONS NO.	DESCRIPTION	DATE
1	GSC CLARIFICATION	9-13-92
2	TO COMPLY WITH PORT AUTHORITY COMMENTS	9-13-92

CANTOR, FITZGERALD SECURITIES CORP.
NEW YORK, N.Y.
ONE WORLD TRADE CENTER

PROJECT TITLE NEW COMPUTER ROOM-2
FLOOR 104TH
DRAWING TITLE SPECIFICATIONS

DATE 15-782 | JOB NUMBER 7002
DRAWN G.N. | SCALE: NONE
DRAWING NUMBER H-3